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TARGET OBJECT

INTRODUCTION

The present invention relates to a target object having a receiving device, in which a target subject may be received. Target objects of this type are known in various embodiments for various sporting competitions.

For example, goals for football or handball games are known which stand directly on the ground at the edge of a playing field and have an essentially cuboid receiving device, open toward the playing field, having stabilizing struts running along the edges of the receiving device. Furthermore, basket-like target objects for basketball games, which may also be supported at the edge of a playing field using a rod-shaped support element above head level, for example, are also known.

The known target objects, because of their shaping, which is tailored to the particular ball game, are not suitable for simple sporting competitions using gas-filled balloons, as they are oriented in the framework of advertising events, preferably as an attraction point for customers or accompanying persons in childhood. Competitions of this type are - lacking suitable target objects - oriented in the form of distance flight competitions.

OBJECT OF THE INVENTION

The present invention is based on the object of allowing a sporting competition using gas-filled balloons and, in addition, providing a widely visible advertisement carrier.

ACHIEVEMENT OF THE OBJECT

On the basis of the known target objects, it is suggested according to the present invention that the target object be suspendable above a starting surface in such a way that the receiving device has at least one opening pointing toward the starting surface, through which a balloon, which rises as the target subject from the starting surface and is filled with lifting gas, may be guided into the receiving device. For this purpose, helium is particularly used as the lifting gas.

The target object according to the present invention allows a novel sporting competition using gas-filled balloons as the target subjects in such a way that balloons which rise due to the lift of the gas from the starting surface and reach the receiving device through the opening trigger a prize. The estimation of the air movement between the starting surface and the opening in the receiving device and, in addition, the typically non-uniform movement of a balloon ("bobbing") represent a special demand on the skill of the players in this case.

In addition, the target object according to the present invention is outstandingly suitable as an advertising carrier, particularly in the framework of events both in the open air and in high spaces (for example, in convention halls). The lateral surfaces of the receiving device offer the possibility of attaching flat advertising messages which then "float" significantly above the ground during operation of the target device. In addition, the balloons rising to the target object in the framework of the sporting competition described irresistibly induce the observer to look again and again at this target object - and the advertising message attached thereto.

The target object according to the present invention may have nearly any arbitrary shape suitable for the intended sporting or advertising purpose in this case. For example, the target object may be designed in the form of a round disk and have multiple circular, segmented, concentrically positioned openings like a dartboard, a hit with a balloon being valued with different point values as a function of the segment hit.

In a preferred embodiment, the receiving device of the target object according to the present invention is advantageously implemented as cuboid. The cuboid shape is especially suitable for attaching flat advertising carriers.

A target object according to the present invention preferably has a rigid stabilization device, using which the shape of the receiving device may be stabilized. The susceptibility of the receiving device to deformation under wind pressure is thus reduced and a uniform impression of the target object is ensured for the sporting competition.

Such a stabilization device preferably has rods connected like scissors, using which a rectangular delimitation element of the shape of the receiving device may be stabilized and which may be laid together parallel - and therefore in a space-saving way - to transport the target object. The receiving device may be constructed especially simply using straight rods. Through the scissor-like connection, the number of required additional connection points is reduced and the handling is simplified and, in addition, the weight is reduced.

In a preferred embodiment, the holding device of a target object according to the present invention may have at least one rod-shaped support element, using which the target object may be supported on the ground. Using such a support

element, a target object may be held in a position above the starting surface.

A rod-shaped support element allows, in addition to support which may be loaded by tension and pressure, a certain torsion loadability in the direction of the rod axis - at least within limits. Through this multiaxial loadability of a support element, the number of required support elements of the holding device may be kept low, through which the handling and the transport of the target object according to the present invention are in turn made easier.

A rod-shaped support element may advantageously be made of fiber-reinforced plastic. A support element made of fiber-reinforced plastic (plastics reinforced with glass, carbon, and ceramic fibers are known) is - particularly in comparison to a support element made of metal (aluminum or steel) - significantly lighter and, in addition, more flexible, with the same carrying capacity. For outdoor applications, the lower susceptibility to lightning is also significant as a safety aspect.

Such a flexible rod-shaped support element sags in an arc on its free end during mounting of a receiving device, so that the slope of the support element on this free end is reduced. The receiving device may then - again in comparison to a rigid support element - be mounted significantly closer to the free end without danger of collisions. In order to reinforce this effect more, the support element may be implemented as weaker (i.e., particularly thinner) toward the free end. Bracing of the receiving device using anchor cables on the ground may also be used in a targeted way in order to achieve a defined sag of the support element.

In addition, a rod-shaped support element may preferably be able to be mounted in segments. Plug-in or folding

connections between the segments are especially simple to manufacture and assemble, and do not require any special embodiment of the segments themselves - in contrast to telescoping support elements. The individual segments may then - for the purpose of the embodiment cited above, which becomes weaker toward the free end - be designed in such a way that the diameter of each individual segment falls continuously or each segment has a smaller diameter than the preceding - which is significantly easier and therefore more cost-effective to produce.

A rod-shaped support element may preferably be received in a receiving element, on which a motor vehicle may be parked for weighting. The rod-shaped support element is already particularly suitable for a transportable embodiment because of the properties and variations described above. Since the transport is typically executed using a motor vehicle - or at least a motor vehicle is available at the usage location - the intrinsic weight of this motor vehicle may be used to fix a receiving element on the ground. The receiving element itself may in turn be implemented as small, light, and cost-effective.

Particularly for use in areas which do not allow access by a motor vehicle, or where a visible motor vehicle is to be avoided, other weight elements - such as vessels filled with water - may be used alternatively. In order to allow variable uses, the receiving element may preferably be constructed modularly in such a way that a larger positioning plate is connectable to the main element. While a wheel of the motor vehicle may be parked on the main element, as described above, the larger positioning plate has the positioning area required for receiving the particular number of weight elements.

In an advantageous embodiment of such a receiving element, an angle between the support element and the horizontal is

particularly settable using an adjustment element. For premounting of the support element on the receiving element, this angle may then be set flat, particularly parallel to the horizontal. To attach an object to be lifted - such as a target object according to the present invention, an illumination object, a sunshade, or advertising carrier - the free end may easily be raised to head level by increasing this angle, for example. Subsequently, the angle may be increased up into the vertical - or even further if a flexible support element is used - to transfer the object into the desired target position.

In the framework of such a receiving element, the support element and the adjustment element are preferably supported in a shared receiving cage. This receiving cage absorbs the bearing forces of the support element and, in addition, of the adjustment element, but only conducts their vertical components - corresponding to the weight of the support element having the object suspended thereon (and of the adjustment element) - but not their mutually canceling horizontal components into the foundation or into to a floor plate of the receiving element.

Such a receiving element preferably prevents the removal of the motor vehicle in the state mounted with the support element, i.e., fulfills the function of a "driving barrier". Unintended removal of the motor vehicle in the mounted state of the target object according to the present invention is thus effectively avoided and its operational safety is elevated.

Alternatively to such a ground-bound receiving element, a target object according to the present invention may also be mounted on a mobile lifting crane or a lifting stage or - for indoor application - may be mounted on a hall roof.

EXEMPLARY EMBODIMENT

The present invention will be explained in the following for exemplary purposes on the basis of the figures of the drawing.

Figure 1 shows a first target object according to the present invention,

Figure 2a shows the receiving device of this target object and

Figure 2b shows the stabilizing device of this receiving device,

Figure 3a shows the receiving element of the first target object in a top view, and

Figure 3b shows this receiving element in a side view.

The first target object 1 shown in Figure 1 has a receiving device 2, which is suspended on a holding device 4 using a holding cable 3 in such a way that its bottom 7, which points toward the starting surface 5 on the ground 6, has a distance 8 thereto of 6.5 m. The holding device 4 comprises a rod-shaped element 9 made of fiberglass-reinforced plastic, which is received on the ground 6 in a receiving element 10. A motor vehicle 11 is parked on the receiving element 10.

The support element 9 is fixed at an angle 13 of up to 90° to the starting surface 5 in the mounted position 12 of the target object 1 shown in Figure 1. Due to the weight of the receiving device 2 suspended on the free end 14, the support element 9 has an arc shape, so that the free end 14 is oriented essentially parallel to the starting surface 5.

In addition, a second position 15 of the support element 9 is shown in Figure 1, in which it is received in the receiving element 10 parallel to the starting surface 5. The support element 9, which is constructed in a way not shown in greater detail here as a "dismountable mast" made of four tubular segments of 3 m length each, is pre-mounted in this position 15:

The first segment has an external diameter of 53 mm and a wall thickness of 8 mm, the second has a wall thickness of 4 mm at the same external diameter, the third again has a wall thickness of 4 mm at an external diameter of 42 mm, and the fourth segment has an external diameter of 28 mm and a wall thickness of 3.5 mm. The segments are each connected via corresponding sleeves which compensates for the different dimensions. The receiving device 2 is then suspended on the free end 14 of the pre-mounted support element 9 and raised up by being moved into the mounted position 12.

Starting from the receiving element 10, with a motor vehicle 11 assumed here for exemplary purposes, the use of the target object 1 according to the present invention requires a free length 16 of 4 m and a free length 17 of 11.5 m in the opposite direction for the pre-mounting of support element 9 and receiving device 2. In the mounted state, the target object 1 requires a free height 18 of 9 m. To illustrate the size ratios, a person 19 is shown standing on the starting surface 5 with a gas-filled balloon 20.

Figure 2a shows the receiving device 2 of the target object 1 in detail. The receiving device 2 has an opening 21 pointing downward in the direction of the starting surface 5 in the mounted position 12 and is suspended on the holding device 4 using the holding cable 3.

The receiving device 2 essentially comprises a net 22 and a rigid stabilization device 23, illustrated singly once again in Figure 2b, as well as two rectangular film elements 24. The net 22 and the film elements 24 are hooked using steel rings (not shown) onto hooks (also not shown) on the stabilizing device 23 in the mounted state of the receiving device 2 shown in Figure 2a. The net 22 delimits the receiving device 2 through a cover element 25 which closes it on top and by four side walls 26. The film elements 24 are printed as advertising carriers in a way which is not shown, stretched on a light stretcher frame (not shown) and suspended on the stabilizing device 23 using hooks (also not shown).

The stabilizing device 23 has six rods 28 which are each connected in pairs to one another in a scissor shape at a centrally positioned joint 27. The net is reinforced using two cables 29 at the cover element 25. On the bottom, the stabilizing device 23 is stretched out using two fiberglass rods 30.

To transport the receiving device 2, first the film elements 24 are removed from the stabilizing device 23, the net 22 is unhooked, and then the rods 28 are pivoted around the particular joint 27 in such a way that they lie parallel to one another. The film elements 24, net 22, and the stabilizing device 23 are laid together in a space-saving way in a transport box (not shown), so that the receiving device 2 is distinguished overall by a minimal space requirement.

The receiving element 10, shown in detail in Figures 3a and 3b, has a stable metallic baseplate 33, which is also used as a positioning area for the tires 34 of the motor vehicle 11. The baseplate 33 is fixed on the ground 6 by the contact pressure of the motor vehicle 11. The baseplate 33 is implemented in a way not shown in greater detail as a

trough which imitates the shape of the tire 34, into which the tire 34 is moved via a ramp. The receiving element 10 thus simultaneously fulfills the function of a "driving barrier". The position of the tire 34 is permanently predefined and the risk of incorrect usage of the receiving element 10 is minimized. Alternatively to a motor vehicle 11, of course, any arbitrary sufficiently heavy object may be used to fix the baseplate 33.

A receiving cage 35 is attached to the baseplate 33, which receives two rotatably mounted shafts 37, 38, running perpendicularly to the driving direction of the motor vehicle 11, on its front ends 36, and therefore distributes the force onto the floor plate over a large area. A receiving tube for the support element 9 is attached to the first shaft 37. This is dimensioned sufficiently long to provide the required hold to the lowermost segment of the support element 9, implemented as a dismountable mast, which is subjected to the highest torques. To hold a fiberglass mast, which is to hold a weight of 3 kg, the receiving tube 39 must have a length of at least 80 cm.

A hydraulic cylinder 50, which is supported on the second shaft 38, is attached to the upper end 40 of the receiving tube 39 at a support point 41. By adjusting the hydraulic cylinder 42, different angles 13 of the support element 9 may be set continuously. The load may thus be mounted easily on the support element 9 when it is raised only slightly above the ground 6 and subsequently lifted to the desired height using the hydraulic cylinder 42.

The second shaft 38 is positioned somewhat lower than the first shaft 37. The receiving tube 39 may thus be transferred into a horizontal position for pre-mounting of the support element 9.

The relief screw (not shown) of the hydraulic cylinder 42 is secured from unauthorized or incorrect release by a closing device. In addition, the maximum opening of the relief screw is limited.

A vertically standing side wall 43 having a guide device 44, which laterally supports and guides the receiving tube 39, is also welded to the baseplate 33.

LIST OF REFERENCE NUMBERS

1	target object
2	receiving device
3	holding cable
4	holding device
5	starting surface
6	ground
7	bottom
8	distance
9	support element
10	receiving element
11	motor vehicle
12	mounted position
13	angle
14	free end
15	second position
16	free length
17	free length
18	free height
19	person
20	balloon
21	opening
22	net
23	stabilizing device
24	film element
25	cover element
26	side wall
27	joint
28	rod
29	cable
30	fiberglass rod
31	receiving device
32	opening
33	baseplate
34	tire
45	receiving cage

36 front end
37 shaft
38 shaft
39 receiving tube
40 upper end
41 support point
42 hydraulic cylinder
43 side wall
44 guide device